ATTACHMENT C

STREAM FORMS

Stream 1	Mod. Class I +++- 1-1342-061815-01
ChieEPA Primary Headwate	r Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3) :
SITE NAME/LOCATION Jagen Bitation / AEP SITE NUMBER 01 RIV LENGTH OF STREAM REACH (ft) 142 LAT. 40.40354 DATE 08.0615 SCORER 1940, COMMEN NOTE: Complete All Items On This Form - Refer to "Field STREAM CHANNEL NONE / NATURAL CHANNEL MODIFICATIONS: Ryman Cat, Ct	TER BASIN DRAINAGE AREA (mi ²) <u>0.04</u> <u>19</u> LONG <u>81.242365</u> RIVER CODE <u>N/A</u> RIVER MILE <u>N/A</u> TS <u>CP IILMURAL</u> Id Evaluation Manual for Ohio's PHWH Streams" for Instructions Id Evaluation Manual for Ohio's PHWH Streams" for Instructions I RECOVERED RECOVERING RECENT OR NO RECOVERY <i>HAN MELIRED</i> , <i>CUMERTED</i>
1. SUBSTRATE (Estimate percent of every type of substrate (Max of 40). Add total number of significant substrate types TYPE PERCENT BLDR SLABS [16 pts] PERCENT BOULDER (>256 mm) [16 pts] 0 COBBLE (65-256 mm) [12 pts] 0 GRAVEL (2-64 mm) [9 pts] 20 SAND (<2 mm) [6 pts]	Ate present. Check ONLY two predominant substrate TYPE boxes Stound (Max of 8). Final metric score is sum of boxes A & B. YPE YPE SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts] (B) YMATER OR MOIST CHANNEL [0 pts] MAXIMUM POOL DEPTH (ceftitmeters):
3. BANK FULL WIDTH (Measured as the average of 3-4 m > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	Deasurements) (Check ONLY one box): Bankfull □ > 1.0 m - 1.5 m (> 3' 3") [5 pts] Width □ ≤ 1.0 m (≤ 3' 3") [5 pts] If If ↓ AVERAGE BANKFULL WIDTH (meters) If If
This Inform RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN L R (Per Bank) L R (Modelian) Image: Stream Flowing Moder (At Time of Evaluation) Image: Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of 0.5 1.5	mation must also be completed
STREAM GRADIENT ESTIMATE	(2 1/10) 11) II Moderate to Severe II Severe (10 11/100 11)

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QUE.	EI PERFORMED? - Yes No QHEI Score	(If Yes, Attach Completed OHEL Form)
DOV	VNSTREAM DESIGNATED USE(S)	(1 1 03, Autor Completed QHEI Form)
🔲 WWH Nam	e:	Distance from Evaluated Stream
	ð:	Distance from Evaluated Stream
LI EVVH Name		Distance from Evaluated Stream
MAP	PING: ATTACH COPIES OF MAPS, INCLUDING THE	E ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrar	ngle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County:	Тс	ownship / City:
MISC	CELLANEOUS	
Base Flow Con	ditions? (Y/N): Date of last precipitation:	Quantity:
^o hotograph info	ormation: 2 P Hotos	
Elevated Turbid	lity? (Y/N): Canopy (% open):	
Vere samples o	collected for water chemistry? (Y/N):/ (Note	lab sample no. or id. and attach results) Lab Number
ield Measures:	: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (umbos/cm)
s the sampling	reach representative of the stream (Y/N)	
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BIOTIC	C EVALUATION I): (If Yes, Record all observations. Vouc ID number, Include appropriate field d	ther collections optional. NOTE: all voucher samples must be labeled with the s
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BIOTIU erformed? (Y/N sh Observed? togs or Tadpole omments Rega	C EVALUATION I):	ther collections optional. NOTE: all voucher samples must be labeled with the salata sheets from the Primary Headwater Habitat Assessment Manual) a Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) uatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) on OF STREAM REACH (This must be completed): for site evaluation and a narrative description of the stream's location AMM ~ W

Stream 2 **Modified Class 1** Field ID: hh-bcr-042516-10 Primary Headwater Habitat Evaluation Form 26 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 10 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** COMMENTS ephemeral flow regime DATE 04/25/16 SCORER bcr/bae/jbl NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** historic ground disturbance 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT TYPF Points BLDR SLABS [16 pts] SILT [3 pt] 25% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10% 5% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 30% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 10% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 21 20% 0% SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 35.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 15 TOTAL NUMBER OF SUBSTRATE TYPES: 6 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 0 0 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 2.00 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** (Per Bank) R (Most Predominant per Bank) R Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box) Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - Yes 🖌 No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Y Date of last precipitation: 04/22/16 Quantity: 0.00
Photograph Information: 2 photos, upstream and downstream
Elevated Turbidity? (Y/N): Canopy (% open): 15%
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
n/a
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
Large Lobble / Boulder ??
FLOW

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Stream 3 **Modified Class 1** Field ID: hh-bcr-042516-09 Primary Headwater Habitat Evaluation Form 24 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 09 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** COMMENTS ephemeral flow regime DATE 04/25/16 SCORER bcr/bae/jbl NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** historic ground disturbance SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes 1 (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT TYPF Points BLDR SLABS [16 pts] SILT [3 pt] 30% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 15% 0% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 10% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 20% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 14 25% 0% SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 10.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 TOTAL NUMBER OF SUBSTRATE TYPES: 5 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 1 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 2.00 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box) Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 3
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, Atta	ach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHEE	DAREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map F	Page: NRCS Soil Map Stream Order
County: Harrison Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N Date of last precipitation: 04/22/16	Quantity: 0.00
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): Canopy (% open):15%	
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. a	and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not please explain:	
Additional comments/description of pollution impacts:	
n/a	
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional ID number. Include appropriate field data sheets from the Pri Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrat Comments Regarding Biology:	I. NOTE: all voucher samples must be labeled with the site imary Headwater Habitat Assessment Manual) Voucher? (Y/N) N tes Observed? (Y/N) N Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	REACH (This must be completed):
Include important landmarks and other features of interest for site evaluation an	nd a narrative description of the stream's location
FLOW - I - II p Steep m m	/woods

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Stream 4 **Modified Class 1** Field ID: hh-bcr-042516-08 Primary Headwater Habitat Evaluation Form 18 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 08 **RIVER BASIN** DRAINAGE AREA (mi²) 25 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** COMMENTS ephemeral flow regime DATE 04/25/16 SCORER bcr/bae/jbl NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** historic ground disturbance, atv trail at head. 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT TYPE PERCENT Points BLDR SLABS [16 pts] SILT [3 pt] 40% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 25% 0% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 10% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 13 25% 0% SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) Substrate Percentage 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 0 0 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 1.00 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box) Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 4
OHEI PERFORMED? - Yes V No. OHEI Score (If Yes Atta	ch Completed QHEI Form)
WWH Name:	_ Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Pa	age: NRCS Soil Map Stream Order
County: Harrison Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 04/22/16	Quantity: 0.00
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): Canopy (% open): 25%	
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. a	ind attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not, please explain:	
Additional comments/description of pollution impacts:	
n/a	
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. ID number. Include appropriate field data sheets from the Prir Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Aquatic Macroinvertebrate Comments Regarding Biology:	NOTE: all voucher samples must be labeled with the site mary Headwater Habitat Assessment Manual) Voucher? (Y/N) es Observed? (Y/N) N Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	EACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation and	d a narrative description of the stream's location

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Reset Form

Modified Class 1 Stream 5 Field ID: hh-bcr-042516-07 Primary Headwater Habitat Evaluation Form 23 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 07 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. LONG. **RIVER CODE RIVER MILE** COMMENTS ephemeral flow regime DATE 04/25/16 SCORER bcr/bae/jbl NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** historic ground disturbance 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT TYPF Points BLDR SLABS [16 pts] SILT [3 pt] 40% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 25% 0% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 10% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 13 25% 0% SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) Substrate Percentage 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 0.5" 0.5 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 1.50 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box) Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)

Flat to Moderate

Moderate to Severe

Severe (10 ft/100 ft)

Moderate (2 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): N _ Date of last precipitation: 04/22/16 _ Quantity: 0.00
Photograph Information: 2 photos, upstream and downstream
Elevated Turbidity? (Y/N): Canopy (% open):25%
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
n/a
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) N Voucher? (Y/N) N Frogs or Tadpoles Observed? (Y/N) N Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
FLOW
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Stream 6 **Modified Class 1** Field ID: hh-bcr-042516-11 Primary Headwater Habitat Evaluation Form 23 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 11 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** DATE 04/25/16 SCORER bcr/bae/jbl COMMENTS ephemeral NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions □ NONE / NATURAL CHANNEL □ RECOVERED □ RECOVERING ☑ RECENT OR NO RECOVERY STREAM CHANNEL MODIFICATIONS: culvert/access road 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT TYPF Points BLDR SLABS [16 pts] SILT [3 pt] 40% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 0% 0% Substrate 0% 0% BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40 10% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 20% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 13 30% 0% SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) Substrate Percentage 10.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 4 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 2 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 1.00 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Field Open Pasture, Row Crop \checkmark Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 15 25 >3 STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)

Flat to Moderate

Moderate to Severe

Severe (10 ft/100 ft)

Moderate (2 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): Stream 6
QHEI PERFORMED? - Yes V No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Y Date of last precipitation: 04/22/16 Quantity: 0.00
Photograph Information: 2 photos, upstream and downstream
Elevated Turbidity? (Y/N): N Canopy (% open): 100%
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
n/a
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) N
Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
mowed lawn
culvert



Stream 7 **Modified Class 1** Field ID: hh-bcr-042516-06 Primary Headwater Habitat Evaluation Form 24 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 06 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** COMMENTS ephemeral flow regime DATE 04/25/16 SCORER bcr/bae/jbl NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** historic ground disturbance 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT TYPF Points BLDR SLABS [16 pts] SILT [3 pt] 25% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 15% 0% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 30% 0% 1 GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 19 30% 0% $\overline{\mathbf{A}}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) Substrate Percentage 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 15 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 0 1 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 1.00 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - Yes 🖌 No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N):N Date of last precipitation:04/22/16Quantity:0.00
Photograph Information: 2 photos, upstream and downstream
Elevated Turbidity? (Y/N): Canopy (% open): 25%
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) PH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
n/a
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
FLOW
October 24, 2002 Revision PHWH Form Page - 2 Save as pdf Reset Form

Stream 8 **Modified Class 2** Field ID: hh-bcr-042516-04 Primary Headwater Habitat Evaluation Form 35 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 04 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. LONG. **RIVER CODE RIVER MILE** COMMENTS ephemeral flow regime DATE 04/25/16 SCORER bcr/bae/jbl NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** historic ground disturbance 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT TYPF Points BLDR SLABS [16 pts] SILT [3 pt] 30% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10% 0% Substrate $\overline{}$ 25% 0% BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40 0% COBBLE (65-256 mm) [12 pts] 5% CLAY or HARDPAN [0 pt] 15% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 25 15% 0% SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 30.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 19 TOTAL NUMBER OF SUBSTRATE TYPES: 6 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 2 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 1.00 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 8
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, Atta	ch Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map P	age: NRCS Soil Map Stream Order
County: Harrison Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 04/22/16	Quantity: 0.00
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): Canopy (% open):35%	
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. a	and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
n/a	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional	. NOTE: all voucher samples must be labeled with the site
	N
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N	Voucher? (Y/N) N es Observed? (Y/N) N Voucher? (Y/N)
Comments Regarding Biology:	
	· · · · · · · · · · · · · · · · · · ·
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	EACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation an	d a narrative description of the stream's location
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Stream 9 **Modified Class 1** Field ID: hh-bcr-042516-05 Primary Headwater Habitat Evaluation Form 17 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 05 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. LONG. **RIVER CODE RIVER MILE** COMMENTS ephemeral flow regime DATE 04/25/16 SCORER bcr/bae/jbl NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** historic ground disturbance 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT TYPF Points BLDR SLABS [16 pts] SILT [3 pt] 50% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 20% 0% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 0% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 12 30% 0% SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) Substrate Percentage 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 TOTAL NUMBER OF SUBSTRATE TYPES: 3 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 0 0 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 1.00 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed	I): Stream 9
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, A	Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	_ Distance from Evaluated Stream
CWH Name:	_ Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSI	HED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Ma	ap Page: NRCS Soil Map Stream Order
County: Harrison Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 04/22/16	Quantity: 0.00
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or	id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
n/a	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections option ID number. Include appropriate field data sheets from the Voucher? (Y/N) N Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Aquatic Macroinverte Comments Regarding Biology:	onal. NOTE: all voucher samples must be labeled with the site e Primary Headwater Habitat Assessment Manual) N Voucher? (Y/N) N Voucher? (Y/N) N
DRAWING AND NARRATIVE DESCRIPTION OF STREAM	M REACH (This must be completed):
Include important landmarks and other features of interest for site evaluation	n and a narrative description of the stream's location
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PHWH Form Page - 2	
October 24, 2002 Revision	Save as pdf Reset Form

Modified Class 1 Stream 10 Field ID: hh-bcr-042516-03 Primary Headwater Habitat Evaluation Form 24 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 03 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. LONG. **RIVER CODE RIVER MILE** COMMENTS ephemeral flow regime DATE 04/25/16 SCORER bcr/bae/jbl NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** historic ground disturbance 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT TYPF Points BLDR SLABS [16 pts] SILT [3 pt] 35% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 20% 0% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 10% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 15% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 14 20% 0% SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 10.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 TOTAL NUMBER OF SUBSTRATE TYPES: 5 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 1 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 1.00 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 10
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, Atta	ich Completed QHEI Form)
WWH Name:	Distance from Evaluated Stream
	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map P	Page: NRCS Soil Map Stream Order
County: Harrison Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 04/22/16	Quantity: 0.00
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): Canopy (% open): 25%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. a	and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
n/a	
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional ID number. Include appropriate field data sheets from the Pri Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Aquatic Macroinvertebrat Comments Regarding Biology: Comments Regarding Biology N Comments Regarding Biology	NOTE: all voucher samples must be labeled with the site mary Headwater Habitat Assessment Manual) Voucher? (Y/N) N tes Observed? (Y/N) N Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation an	d a narrative description of the stream's location
FLOW > HH-03 HIS Debr	HIH-02

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Stream 11 Field ID: hh-bcr-042516-02 Cla	ss 2
ChieFPA Primary Headwater Habitat Evaluation Form	ΔΔ
HHEI Score (sum of metrics 1, 2, 3)	:
SITE NAME/LOCATION Yager-Leesville	
SITE NUMBER_02 RIVER BASIN DRAINAGE AREA	(mi²)
LENGTH OF STREAM REACH (ft) 200 LAT. LONG. RIVER CODE RIVER	MILE
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Obio's PHWH Streams" for	
MODIFICATIONS:	IO RECOVERY
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE b	oxes
(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.	HHEI
BLDR SLABS [16 pts]	Points
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 15% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0%	Substrate
COBBLE (65-256 mm) [12 pts] 5% CLAY or HARDPAN [0 pt]	Max = 40
GRAVEL (2-64 mm) [9 pts] 15% MUCK [0 pts] 0% SAND (<2 mm) [6 pts]	14
Total of Percentages of F 0.0% (A) Substrate Percentage (B)	
Bldr Slabs, Boulder, Cobble, Bedrock	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):	Max = 30
> 30 centimeters [20 pts] ✓ > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] ✓ < 5 cm [5 pts]	
> 10 - 22.5 cm [25 pts]	15
COMMENTS MAXIMUM POOL DEPTH (Inches):	3
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankfull
$ = 3.0 \text{ m} - 4.0 \text{ m} (> 97^{-} - 13) [35 \text{ pts}] $ $ = 3.0 \text{ m} - 4.0 \text{ m} (> 97^{-} - 13) [25 \text{ pts}] $ $ = 4.0 \text{ m} (<=3^{-}3^{-}3^{-}) [5 \text{ pts}] $	Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH (Feet):	3.50
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY	ım☆
L R (Most Predominant per Bank) L R	
✓ Wide >10m ✓ Mature Forest, Wetland ✓ Conservation To ✓ Moderate 5-10m ✓ Immature Forest, Shrub or Old ✓ Urban or Indust	llage
Field Open Pasture,	Row Crop
Narrow < 5m Residential, Park, New Field II Mining or Const	ruction
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	
Stream Flowing Moist Channel, Isolated pools, no flow (Interstitial) Dry channel, no water (Ephemeral)	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0	
0.5 1.5 2.5 >3	
STREAM GRADIENT ESTIMATE	∫ e (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 11
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, Atta	ach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	_ Distance from Evaluated Stream
CWH Name: _	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHEE	O AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map F	Page: NRCS Soil Map Stream Order
County: Harrison Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 04/22/16	Quantity: 0.00
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): Canopy (% open):35%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. a	and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
n/a	
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional ID number. Include appropriate field data sheets from the Pri Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrat Comments Regarding Biology:	I. NOTE: all voucher samples must be labeled with the site mary Headwater Habitat Assessment Manual) Voucher? (Y/N) N tes Observed? (Y/N) N Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM F	REACH (This must be completed):
Include important landmarks and other features of interest for site evaluation an	id a narrative description of the stream's location
FLOW - ROW	

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Stream 12 **Modified Class 1** Field ID: hh-bcr-042516-01 Primary Headwater Habitat Evaluation Form 17 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 01 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. LONG. **RIVER CODE RIVER MILE** COMMENTS ephemeral flow regime DATE 04/25/16 SCORER bcr/bae/jbl NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** historic ground disturbance 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT TYPF Points BLDR SLABS [16 pts] SILT [3 pt] 60% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10% 0% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 0% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 12 30% 0% SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) Substrate Percentage 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 TOTAL NUMBER OF SUBSTRATE TYPES: 3 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 0 0 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 1.50 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box) Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 12
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, Atta	ach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	_ Distance from Evaluated Stream
	Distance from Evaluated Stream
USGS Quadrangle Name	Page NRCS Soil Map Stream Order
County: Harrison Township / City:	
MISCELLANEOUS	<u>_</u>
Base Flow Conditions? (Y/N): Y Date of last precipitation: 04/22/16	Quantity: 0.00
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): N Canopy (% open): 25%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. a	and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
n/a	
BIOTIC EVALUATION	
Performed? (V/N): N (If Ves Record all observations Voucher collections optional	NOTE: all voucher samples must be labeled with the site
ID number. Include appropriate field data sheets from the Pri	imary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) Salamanders Observed? (Y/N)	Voucher? (Y/N)
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrat	tes Observed? (Y/N) N Voucher? (Y/N)
Comments Regarding Biology:	
	·
	REACH (This must be completed):
Include important landmarks and other features of interact for site evoluation on	ed a narrative description of the stream's leastion
	$D' \rightarrow K \rightarrow C$
	$\langle \gamma \rangle$



Modified Class 1 Stream 13 Field ID: hh-bcr-042616-01 Primary Headwater Habitat Evaluation Form 24 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 01 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** DATE 04/26/16 COMMENTS ephemeral flow regime bcr/cms SCORER NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** atv trail through channel SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes 1 (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT Points BLDR SLABS [16 pts] SILT [3 pt] 10% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10% 0% Substrate 0% 0% BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 40% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 1 19 40% 0% $\overline{\mathbf{A}}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] (B) Total of Percentages of (A) 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 15 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 0 0 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 2.50 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS_Mostly ephemeral, transitioning to intermittent toward east edge of corridor. SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)

Flat to Moderate

Moderate to Severe

Severe (10 ft/100 ft)

Moderate (2 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Complete	d):
QHEI PERFORMED? - Yes V No QHEI Score (If Yes,	Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	_ Distance from Evaluated Stream
CWH Name:	_ Distance from Evaluated Stream _
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERS	SHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil M	lap Page: NRCS Soil Map Stream Order
County: Harrison Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 04/26/16	Quantity: 0.50
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): N Canopy (% open): 30%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. o	r id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U	J.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain	1:
Additional comments/description of pollution impacts:	
n/a	
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections op ID number. Include appropriate field data sheets from th Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) N Comments Regarding Biology:	tional. NOTE: all voucher samples must be labeled with the site the Primary Headwater Habitat Assessment Manual) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N
DRAWING AND NARRATIVE DESCRIPTION OF STREA	M REACH (This <u>must</u> be completed):
FLOW	on and a narrative description of the stream's location

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Stream 14	Field ID: hh-bcr-042616	-02			Class 2	
ChieFPA	Primary Head	water Ha	abitat Evalu	ation Form	ר ר	20
			HHEI Score	(sum of metrics	5 1, 2, 3) :	39
SITE NAME/LOCATION	aer-Leesville					
	SITE NUMBER 02	RIVER BA	ASIN	DRAINA	AGE AREA (mi²)	
LENGTH OF STREAM REACH	I (ft) 200 LAT.					
DATE 04/26/16 SCO	RER bcr/cms C	OMMENTS In	termittent flow re	egime		
NOTE: Complete All Iten	is On This Form - Refer	to "Field Eva	luation Manual for	' Ohio's PHWH St	reams" for Instr	uctions
STREAM CHANNEL MODIFICATIONS:	NONE / NATURAL CH	HANNEL	ECOVERED REG		CENT OR NO REC	OVERY
1. SUBSTRATE (Estimation (Max of 32). Add total	number of significant substr	f substrate pres ate types found	sent. Check <i>ONLY</i> <u>two</u> (Max of 8). Final metri	<u>predominant substr</u> c score is sum of bo	ate <i>TYPE</i> boxes xes A & B.	HHEI
	PERCENT				PERCENT	Metric Points
BOULDER (>256	mm) [16 pts]		LEAF PACK/WOOD	Y DEBRIS [3 pts]	10%	Substrate
BEDROCK [16 p	t] 0%		FINE DETRITUS [3	pts]	0%	Max = 40
GRAVEL (2-64 mi	m) [9 pts]		MUCK [0 pts]	[0 b1]	0%	10
SAND (<2 mm) [6	pts] 40%		ARTIFICIAL [3 pts]		0%	
Total of Percen Bldr Slabs, Boulder, C	tages of 0.00%	(A)	Substrate Percentage Check 1	00%	(B)	A + B
SCORE OF TWO MOST PRE	DOMINATE SUBSTRATE T	YPES: 15	TOTAL NUMBE	R OF SUBSTRATE	TYPES: 4	
2. Maximum Pool Dept	h (Measure the maximum µ	pool depth with	in the 61 meter (200	ft) evaluation reach	at the time of	Pool Depth
evaluation. Avoid plun > 30 centimeters [20 p	ge pools from road culverts ts]	or storm water p	ipes) (Check ONL) > 5 cm - 10 cm [15	one box): pts]		Max = 30
> 22.5 - 30 cm [30 pts > 10 - 22 5 cm [25 pts]		< 5 cm [5 pts]	OIST CHANNEL [0 r	otsl	15
	1					
						Damlefull
3. BANK FULL WIDTH > 4.0 meters (> 13') [30	pts]	of 3-4 measure	> 1.0 m - 1.5 m (> 3	" 3" - 4' 8") [15 pts]		Width
> 3.0 m - 4.0 m (> 9' 7" > 1.5 m - 3.0 m (> 9' 7"	- 13') [25 pts] - 4' 8") [20 pts]	\checkmark	≤ 1.0 m (<=3' 3") [5	pts]		Max=30
COMMENTS			AVERAGE B	ANKFULL WIDTH	(Feet)· 2.00	5
		This informatio	n <u>must</u> also be comp	leted	a downetrooms∿	
RIPARIAN W	<u>IDTH</u>	DPLAIN QUALIT	<u>-Y</u>		guownstream A	
L R (Per Bank)		(Most Predo Mature Fore	minant per Bank) st, Wetland	L R	servation Tillage	
Moderate 5	-10m 🗹 🗖	Immature Fo	rest, Shrub or Old	Urba	an or Industrial	
Narrow <5r	n 🗖	Residential,	Park, New Field		n Pasture, Row Cro	qu
None		Fenced Past	ure	 Mini	ng or Construction	
COMMENTS_						
FLOW REGIN	IE (At Time of Evaluation) (Check ONLY or	e box):	nel isolated pools n	o flow (Intermittent)	1
	v with isolated pools (Intersti	tial)	Dry channe	I, no water (Epheme	eral)	
	lumbar of bands of the first of	200 ft) -f -l		h a u) i		
SINUOSITY (1 None	umber of bends per 61 m (2	200 ft) of channe	(Check $ONLY$ one 2.0	DOX):	.0	
0.5	1.5		2.5	✓ >	3	
STREAM GRADIENT	ESTIMATE at to Moderate	derate (2 ft/100 ft)	Moderate	to Severe	Severe (10 ft/10	00 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 14
QHEI PERFORMED? - Yes V No QHEI Score (If Yes, Attac	ch Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Pa	age: NRCS Soil Map Stream Order
County: Harrison Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N Date of last precipitation: 04/26/16	Quantity: 0.50
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): Canopy (% open):40%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. a	nd attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not, please explain:	
Additional comments/description of pollution impacts:	
n/a	
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. ID number. Include appropriate field data sheets from the Prin Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Aquatic Macroinvertebrate Comments Regarding Biology:	NOTE: all voucher samples must be labeled with the site nary Headwater Habitat Assessment Manual) Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	EACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation an	d a narrative description of the stream's location
FLOW RIF RUN POOL	AND AND



Stream 15	Field ID: hh-bcr	-042616-03			Class 2	
Ohio FPA	Primary H	leadwater F	labitat Evalu	ation Form		13
			HHEI Score	(sum of metrics 1	I, 2, 3) :	ŧJ
SITE NAME/LOCATION	Yager-Leesville					
	SITE NUMBER 03	RIVER	BASIN	DRAINAG	E AREA (mi²)	
LENGTH OF STREAM RE	ACH (ft) 200	LAT L				
DATE 04/20/16 S	CORER DCF/CMS	COMMENTS _				
NOTE: Complete All I		- Refer to "Field E		Onio's PHWH Stre	ams" for instru	ictions
STREAM CHANNEL MODIFICATIONS:	NONE / NAT	URAL CHANNEL	RECOVERED REC		NT OR NO RECO	OVERY
1 SUBSTRATE (Es	timate percent of ever	w type of substrate n	resent Check ONI X two			
(Max of 32). Add t	otal number of significa	int substrate types four	nd (Max of 8). Final metri	ic score is sum of boxe	s A & B.	HHEI
TYPE BLDR SLABS	[16 pts]	RCENT TYPE	SILT [3 pt]	<u>P</u>	ERCENT 30%	Points
	256 mm) [16 pts]	0%	LEAF PACK/WOOD	Y DEBRIS [3 pts]	<u>10%</u>	Substrate
	256 mm) [12 pts]		CLAY or HARDPAN	[0 pt]	0%	Max = 40
GRAVEL (2-64	1 mm) [9 pts]	20%	MUCK [0 pts]		0%	13
SAND (<2 mm	i) [6 pts]		ARTIFICIAL [3 pts]			
Bldr Slabs, Boulde	er, Cobble, Bedrock	.00% (A)	Substrate Percentage Check 1	00%	(B)	A + B
SCORE OF TWO MOST P	REDOMINATE SUBST	RATE TYPES: 9	TOTAL NUMBE	ER OF SUBSTRATE T	YPES: 4	
2. Maximum Pool D	epth (Measure the ma	aximum pool depth w	ithin the 61 meter (200 r pipes) (Check ON/ Y	ft) evaluation reach at	the time of	Pool Depth Max = 30
> 30 centimeters [2	20 pts]		> 5 cm - 10 cm [15	pts]		
> 22.5 - 30 cm [30	pts]		<pre> < 5 cm [5 pts] NO WATER OR M(</pre>	OIST CHANNEL [0 pts]	25
COMMENTS			MAXIMUM P	OOL DEPTH (In	iches): 6	
3. BANK FULL WID	TH (Measured as the a	average of 3-4 measu	rements) (Cheo	ck ONLY one box):		Bankfull
> 4.0 meters (> 13') > 3.0 m $-$ 4.0 m (> 9	[30 pts] 9' 7" - 13') [25 pts]	, i i i i i i i i i i i i i i i i i i i	> 1.0 m - 1.5 m (> 3	8' 3" - 4' 8") [15 pts]		Width Max=30
> 1.5 m - 3.0 m (> 9	9' 7" - 4' 8") [20 pts]	E	≤ 1.0 m (\ −0 0) [0	pro]		
COMMENTS			AVERAGE B	ANKFULL WIDTH	(Feet): 2.00	5
RIPARIAN	ZONE AND FLOODP	This informa لا LAIN QUALITY	tion <u>must</u> also be comp NOTE: River Left (L) and	o leted d Right (R) as looking c	lownstream 🛠	
RIPARIA	<u>N WIDTH</u>	FLOODPLAIN QUA	LITY dominant nor Bank)			
V Wide >	10m	Mature Fo	prest, Wetland	Conse	rvation Tillage	
Modera Modera	te 5-10m	Field	Forest, Shrub or Old	Urban	or Industrial	
Narrow	<5m	Residentia	al, Park, New Field	Open Open	Pasture, Row Crop	ρ
	TS wetland at origin	Fenced P	asture	Mining	or Construction	
ELOW PE	GIME (At Time of Eval	uation) (Check ONLY	one box):			
Stream Flo	wing		Moist Chan	nel, isolated pools, no	flow (Intermittent)	
	TS	s (Interstitial)	Dry channe	i, no water (Ephemera	1)	
SINUOSIT	Ύ (Number of ben <u>ds p</u> ε	er 61 m (200 ft) of char	nel) (Check ONLY one	box):		
None 0.5	H	1.0 1.5	2.0	→ 3.0 ✓ >3		
STREAM GRADIE						
Flat (0.5 ft/100 ft)	Flat to Moderate	Moderate (2 ft/100	ft) Moderate	to Severe	Severe (10 ft/10	0 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 15
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, Atta	ch Completed QHEI Form)
WWH Name:	_ Distance from Evaluated Stream
	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	
USGS Quadrangle Name: NRCS Soil Map P	age: NRCS Soil Map Stream Order
County: Township / City:	
MISCELLANEOUS	0.50
Base Flow Conditions? (Y/N): Date of last precipitation: 04/20/10	Quantity: 0.50
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): Canopy (% open): 50%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. a	and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not, please explain:	
Additional comments/description of pollution impacts:	
n/a	
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. ID number. Include appropriate field data sheets from the Prin	. NOTE: all voucher samples must be labeled with the site mary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrate Comments Regarding Biology:	Voucher? (Y/N) N es Observed? (Y/N) N
	· · · · · · · · · · · · · · · · · · ·
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	EACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation an	d a narrative description of the stream's location
FLOW	Pool the 1
Wetland A	THE AL

PHWH Form Page - 2

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Reset Form

Stream 16 Modified Class 0 Field ID: hh-xxx-ddmmyy-01 Primary Headwater Habitat Evaluation Form 33 HHEI Score (sum of metrics 1, 2, 3) : hh-bae-042616-09 SITE NAME/LOCATION SITE NUMBER 00 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE COMMENTS** intemittent bae/jbl SCORER DATE NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes 1 HHEI (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric TYPE PERCENT PERCENT TYPF Points BLDR SLABS [16 pts] SILT [3 pt] 40% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 5% 0% Substrate 0% 0% BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 15% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 13 40% 0% $\overline{}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] 1 > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 15 3 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 5 3.00 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m $\overline{}$ \checkmark Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 16
	ich Completed OHEL Form)
	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map P	Page: NRCS Soil Map Stream Order
County: Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N Date of last precipitation: 04/26/16	Quantity: 0.00
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. a	and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional	. NOTE: all voucher samples must be labeled with the site
ID number. Include appropriate field data sheets from the Pri	mary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Adjustic Macroinvertebrat	Voucher? (Y/N) N
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation an	d a narrative description of the stream's location
- Nry	É
I'N IT	



Stream 17	Good Warmwater
ChicEPA	Qualitative Habitat Evaluation Index and Use Assessment Field SheetQHEI Score: 58.5
Stream & Location: Yage	-Leesville RM:Date: 4/26/16
QH-BAE-042616-01	Scorers Full Name & Affiliation: Betsy Ewoldt / AECOM
River Code:	STORET #:Lat./ Long.: Office verified location
1] SUBSTRATE Check ONLY estimate % o BEST TYPES POOL F BLDR /SLABS [10] BOULDER [9] COBBLE [8] GRAVEL [7] SAND [6] 40 BEDROCK [5] NUMBER OF BEST TYPES Comments	Two substrate <i>TYPE BOXES</i> ; r note every type present Check ONE (Or 2 & average) OTHER TYPES POOL RIFFLE Check ONE (Or 2 & average) ORIGIN QUALITY Image:
2] INSTREAM COVER Indic quality; 3-Highest quality in mode diameter log that is stable, well de 1 UNDERCUT BANKS [1] 0 VERHANGING VEGETAT SHALLOWS (IN SLOW WA ROOTMATS [1] Comments	AMOUNT ty; 2-Moderate amounts, but not of highest quality or in small amounts of highest rate or greater amounts, (e.g., very large boulders in deep or fast water, large eveloped rootwad in deep / fast water, or deep, well-defined, functional pools. POOLS > 70cm [2] TION [1] TER) [1] BOULDERS [1] 2 COXBOWS, BACKWATERS [1] 2 COXBOR WOODY DEBRIS [1] 2 Cover Maximum 20 9
3] CHANNEL MORPHOLOG SINUOSITY DEVELOF □ HIGH [4] □ EXCELL □ MODERATE [3] □ GOOD [4 □ LOW [2] □ FAIR [3] □ NONE [1] □ POOR [7 Comments □	Check ONE in each category (Or 2 & average) MENT CHANNELIZATION STABILITY ENT [7] NONE [6] HIGH [3] Base of the covered [4] MODERATE [2] Base of the covering [3] Low [1] Channel Maximum 20 16
4] BANK EROSION AND R River right looking downstream □ R EROSION □ R □ NONE / LITTLE [3] □ C □ MODERATE [2] □ C □ HEAVY / SEVERE [1] □ C □ Comments	Image: Partial System Check ONE in each category for EACH BANK (Or 2 per bank & average) RIPARIAN WIDTH FLOOD PLAIN QUALITY WIDE > 50m [4] Forest, swamp [3] MODERATE 10-50m [3] SHRUB OR OLD FIELD [2] NARROW 5-10m [2] RESIDENTIAL, PARK, NEW FIELD [1] VERY NARROW < 5m [1]
5] POOL / GLIDE AND RIF MAXIMUM DEPTH Check ONE (ONLY!) (0 > 1m [6] PO 0.7-<1m [4] PO 0.4-<0.7m [2] PO 0.2-<0.4m [1] 0.2-<0.4m [1] Comments	FLE / RUN QUALITY CHANNEL WIDTH CURRENT VELOCITY Check ONE (Or 2 & average) Recreation Potential Primary Contact Check ONE (Or 2 & average) Check ALL that apply Primary Contact CL WIDTH > RIFFLE WIDTH [2] TORRENTIAL [-1] SLOW [1] CL WIDTH = RIFFLE WIDTH [1] VERY FAST [1] INTERSTITIAL [-1] CL WIDTH > RIFFLE WIDTH [0] FAST [1] INTERMITTENT [-2] MODERATE [1] EDDIES [1] Pool / Current Maximum 12
Indicate for functional of riffle-obligate specie RIFFLE DEPTH BEST AREAS > 10cm [2] M BEST AREAS 5-10cm [1] M BEST AREAS < 5cm [metric=0] Comments	riffles; Best areas must be large enough to support a population Check ONE (Or 2 & average). RUN DEPTH IAXIMUM > 50cm [2] IAXIMUM < 50cm [1] UNSTABLE (e.g., Fine Gravel, Sand) [0] RIFFLE / RUN SUBSTRATE IAXIMUM < 50cm [1] RIFFLE / RUN SUBSTRATE RIFFLE / RUN EMBEDDEDNESS RIFFLE / RUN SUBSTRATE RIFFLE / RUN SUBSTRATE RIFFLE / RUN EMBEDDEDNESS RIFFLE / RUN SUBSTRATE RIFFLE / RUN SUBSTRATE RIFFLE / RUN EMBEDDEDNESS RIFFLE / RUN SUBSTRATE RIFFLE / RUN SUBSTRA
6] GRADIENT (10/1.0 ft/mi) DRAINAGE AREA (1.5 mi ²)	VERY LOW - LOW [2-4] %POOL: 40 %GLIDE: Gradient MODERATE [6-10] %RUN: 40 %RIFFLE: 20 Gradient HIGH - VERY HIGH [10-6] %RUN: 40 %RIFFLE: 20 10



Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

Modified Class 0 Stream 18 Field ID: hh-xxx-ddmmyy-01 Primary Headwater Habitat Evaluation Form 34 HHEI Score (sum of metrics 1, 2, 3) : hh-bae-042616-08 SITE NAME/LOCATION SITE NUMBER 00 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** bae/jbl COMMENTS |eph SCORER DATE NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL **MODIFICATIONS:** SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes 1 (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT Points BLDR SLABS [16 pts] SILT [3 pt] 55% 0% 10% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 0% Substrate 0% 0% BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40 5% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 5% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 14 25% 0% $\overline{}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 5.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 TOTAL NUMBER OF SUBSTRATE TYPES: 5 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] 1 > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 15 2 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 5 1.50 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** (Per Bank) R (Most Predominant per Bank) R Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 15 25 >3

October 24, 2002 Revision

Flat (0.5 ft/100 ft)

STREAM GRADIENT ESTIMATE

Flat to Moderate

Moderate to Severe

Severe (10 ft/100 ft)

Moderate (2 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 18
QHEI PERFORMED? - Yes 🖌 No QHEI Score (If Yes, Atta	ach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name: _	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHEE	O AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map F	Page: NRCS Soil Map Stream Order
County: Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N Date of last precipitation: 04/26/16	Quantity: 0.30
Photograph Information:	
Elevated Turbidity? (Y/N): N Canopy (% open): 0%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. a	and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N): N (If Yes, Record all observations, Voucher collections optional	I. NOTE: all voucher samples must be labeled with the site
ID number. Include appropriate field data sheets from the Pri	imary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) Salamanders Observed? (Y/N) N Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrat	Voucher? (Y/N) N tes Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:	

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



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Reset Form

Modified Class 0 Stream 19 Field ID: hh-xxx-ddmmyy-01 Primary Headwater Habitat Evaluation Form 24 HHEI Score (sum of metrics 1, 2, 3) : hh-bae-042616-07 SITE NAME/LOCATION SITE NUMBER 00 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** bae/jbl COMMENTS |eph SCORER DATE NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL **MODIFICATIONS:** 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT Points BLDR SLABS [16 pts] SILT [3 pt] 40% 0% 10% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 0% Substrate 0% 0% BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40 5% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 15% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 14 30% 0% $\overline{\mathbf{A}}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 5.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 TOTAL NUMBER OF SUBSTRATE TYPES: 5 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 1 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 5 1.50 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m $\overline{}$ \checkmark Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 15 25 >3 STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)

Flat to Moderate

Moderate to Severe

Severe (10 ft/100 ft)

Moderate (2 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 19
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, Atta	ich Completed QHEI Form)
WWH Name:	_ Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	OAREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map P	Page: NRCS Soil Map Stream Order
County: Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N Date of last precipitation: 04/26/16	Quantity: 0.30
Photograph Information:	
Elevated Turbidity? (Y/N): N Canopy (% open): 0%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. a	and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional ID number. Include appropriate field data sheets from the Pri	NOTE: all voucher samples must be labeled with the site mary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrat	Voucher? (Y/N) N tes Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation an	d a narrative description of the stream's location
wooded	
	qh01
	V
FLUW 🖣	
	farm

wooded

Modified Class 0 Stream 20 Field ID: hh-xxx-ddmmyy-01 Primary Headwater Habitat Evaluation Form 34 HHEI Score (sum of metrics 1, 2, 3) : hh-bae-042616-06 SITE NAME/LOCATION SITE NUMBER 00 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** bae/jbl COMMENTS |eph SCORER DATE NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL **MODIFICATIONS:** 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT Points BLDR SLABS [16 pts] SILT [3 pt] 40% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 5% 0% Substrate 0% 0% BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40 5% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 20% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 14 30% 0% $\overline{\mathbf{A}}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) Substrate Percentage 5.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 TOTAL NUMBER OF SUBSTRATE TYPES: 5 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] 1 > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 15 2 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 5 2.00 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Field Open Pasture, Row Crop \checkmark Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0

STREAM GRA	DIENT ESTIMATE	_
Flat (0.5 ft/100 ft)	Flat to Moderate	Moderate (2 ft/100 ft)

15

0.5

25

Moderate to Severe

>3

Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 20
QHEI PERFORMED? - Yes 🖌 No QHEI Score (If Yes, Attach	Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED A	REA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Pag	e: NRCS Soil Map Stream Order
County: Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N _ Date of last precipitation: 04/26/16	Quantity: 0.30
Photograph Information:	
Elevated Turbidity? (Y/N): N Canopy (% open): 0%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and	d attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. I ID number. Include appropriate field data sheets from the Prima Fish Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Comments Regarding Biology:	NOTE: all voucher samples must be labeled with the site ary Headwater Habitat Assessment Manual) Voucher? (Y/N) N Observed? (Y/N) N Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM RE	ACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation and	a narrative description of the stream's location
grassy- residential	
	qh01
FLOW	
wooded	wooded
farm	
DHWH Form Page 2	

Save as pdf

Stream 20

Field ID: hh-xxx-ddmmyy-01 Stream 21 Primary Headwater Habitat Evaluation Form

7
Z 4

SITE NAME/LOCATION hh-bae-042616-05	
SITE NUMBER RIVER BASIN DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft) 200 LAT. LONG. RIVER CODE RIVER MILE	
DATE SCORER bae/jbl COMMENTS eph	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for In	structions
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO R	ECOVERY
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes	
(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.	HHEI Metric
IYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] 0% ✓ SILT [3 pt] 55%	Points
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 5%	Substrate
$\square \square $	Max = 40
GRAVEL (2-64 mm) [9 pts] 5% MUCK [0 pts] 0%	14
SAND (<2 mm) [6 pts]	
Total of Percentages of 5.00% (A) Substrate Percentage 100% (B)	A+B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 5	
2 Maximum Bool Donth (Macoura the maximum pool donth within the 61 mater (200 ft) evoluation reach at the time of	Bool Dopth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):	Max = 30
> 30 centimeters [20 pts] > 22 5 - 30 cm [30 pts]	
> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts]	5
COMMENTS MAXIMUM POOL DEPTH (Inches): 1	
3 BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankfull
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] \checkmark \leq 1.0 m (<=3' 3") [5 pts]	Max=30
	5
COMMENTS AVERAGE BANKFULL WIDTH (Feet):	
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY	
RIPARIAN WIDTH FLOODPLAIN QUALITY	
Image: Second secon	
Moderate 5-10m Immature Forest, Shrub or Old Urban or Industrial	
Narrow <5m Residential, Park, New Field Open Pasture, Row	Crop
None Fenced Pasture Mining or Constructi	on
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	
Stream Flowing Moist Channel, isolated pools, no flow (Intermitted Subsurface flow with isolated pools (Interstitial)	nt)
COMMENTS	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 0.5 1.0 2.0 2.0 3.0 2.3	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):None1.02.03.00.51.52.5 \checkmark >3	

ADDITIONAL STREAM INFORMATION (This Information Must Also	be Completed): Stream 21
QHEI PERFORMED? - Yes 🗸 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	_ Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EN	ITIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Towns	ship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_N Date of last precipitation:	04/26/16 Quantity: 0.30
Photograph Information:	
Elevated Turbidity? (Y/N): N Canopy (% open): 0%	>
Were samples collected for water chemistry? (Y/N): N (Note lat	o sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not,	please explain:
Additional comments/description of pollution impacts:	
Performed? (Y/N): (If Yes, Record all observations. Vouche ID number. Include appropriate field data	r collections optional. NOTE: all voucher samples must be labeled with the site a sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) Salamanders O	bserved? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquat	ic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N)
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION	OF STREAM REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for	r site evaluation and a narrative description of the stream's location
wooded	
] gh01
wooded	

PHWH Form Page - 2

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Reset Form

Stream 22 Modified Class 0 Field ID: hh-xxx-ddmmyy-01 Primary Headwater Habitat Evaluation Form 23 HHEI Score (sum of metrics 1, 2, 3) : hh-bae-042616-04 SITE NAME/LOCATION SITE NUMBER 00 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** bae/jbl COMMENTS |eph SCORER DATE NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL **MODIFICATIONS:** 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEI (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric TYPE PERCENT PERCENT Points BLDR SLABS [16 pts] SILT [3 pt] 50% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 5% 0% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 5% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 13 40% 0% $\overline{\mathbf{A}}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) Substrate Percentage 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 1 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 1.00 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m $\overline{}$ \checkmark Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - Yes 🖌 No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): N Date of last precipitation: 04/26/16 Quantity: 0.00
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):0%
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) N Voucher? (Y
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):
Include important landmarks and other features of interest for site evaluation and a parrative description of the stream's location
FLOW
October 24, 2002 Revision PHWH Form Page - 2 Save as pdf Reset Form

Stream 22

Stream 23 Modified Class 0 Field ID: hh-xxx-ddmmyy-01 Primary Headwater Habitat Evaluation Form 33 HHEI Score (sum of metrics 1, 2, 3) : hh-bae-042616-03 SITE NAME/LOCATION SITE NUMBER 00 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE COMMENTS** intemittent bae/jbl SCORER DATE NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEI (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric TYPE PERCENT PERCENT Points BLDR SLABS [16 pts] SILT [3 pt] 40% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 5% 0% Substrate 0% 0% BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 15% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 13 40% 0% $\overline{}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] 1 > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 15 3 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 2.00 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) $\overline{}$ Wide >10m \checkmark Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 23		
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, Atta	ch Completed QHEI Form)		
WWH Name:	Distance from Evaluated Stream		
CWH Name:	Distance from Evaluated Stream		
EWH Name:	Distance from Evaluated Stream		
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION		
USGS Quadrangle Name: NRCS Soil Map P	age: NRCS Soil Map Stream Order		
County: Township / City:			
MISCELLANEOUS			
Base Flow Conditions? (Y/N): N _ Date of last precipitation: 04/26/16	Quantity: 0.00		
Photograph Information:			
Elevated Turbidity? (Y/N): N Canopy (% open): 0%			
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. a	and attach results) Lab Number:		
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)		
Is the sampling reach representative of the stream (Y/N) If not, please explain:			
Additional comments/description of pollution impacts:			
BIOTIC EVALUATION			
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional	. NOTE: all voucher samples must be labeled with the site		
ID number. Include appropriate field data sheets from the Pri	mary Headwater Habitat Assessment Manual)		
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N)	Voucher? (Y/N) N		
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Aquatic Macroinvertebrat	es Observed? (Y/N) N Voucher? (Y/N)		
Comments Regarding Biology:			
	· · · · · · · · · · · · · · · · · · ·		
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	d a narrative description of the stream's location		
	600		
	AT DI		
FLOW 7			
1 AAAAA			
171 m cm			
M A E			
PHWH Form Page - 2			
October 24, 2002 Revision	Save as pdf Reset Form		

Stream 24 Modified Class 0 Field ID: hh-xxx-ddmmyy-01 Primary Headwater Habitat Evaluation Form 23 HHEI Score (sum of metrics 1, 2, 3) : hh-bae-042616-01 SITE NAME/LOCATION SITE NUMBER 00 **RIVER BASIN** DRAINAGE AREA (mi²) 200 RIVER CODE LENGTH OF STREAM REACH (ft) LAT. LONG. **RIVER MILE** COMMENTS ephemeral bae/jbl SCORER DATE NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEI (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric TYPE PERCENT PERCENT TYPF Points BLDR SLABS [16 pts] SILT [3 pt] 40% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 5% 0% Substrate 0% 0% BEDROCK [16 pt] FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 15% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 13 40% 0% $\overline{}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 2 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 1.50 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m $\overline{}$ \checkmark Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): Stream 24	
QHEI PERFORMED? - Yes 🖌 No QHEI Score (If Yes, Attach Completed QHEI Form)	
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Distance from Evaluated Stream	
CWH Name: Distance from Evaluated Stream	
EWH Name: Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCA	TION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Or	der
County: Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N Date of last precipitation: 04/26/16 Quantity: 0.00	
Photograph Information:	
Elovated Turbidity2 (X/N): N Capapy (% app): 30%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:	
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)	
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be label ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual Voucher? (Y/N) N V	ed with the site II)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed	1):
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's	location
W-02	
ACCESS FOOD	
FLOW - Man	
JP W-DZb// JPX	/ /
PHWH Form Page - 2	

Reset Form

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Modified Class 0 Stream 25 Field ID: hh-xxx-ddmmyy-01 Primary Headwater Habitat Evaluation Form 23 HHEI Score (sum of metrics 1, 2, 3) : hh-bae-042616-01 SITE NAME/LOCATION SITE NUMBER 00 **RIVER BASIN** DRAINAGE AREA (mi²) 200 RIVER CODE LENGTH OF STREAM REACH (ft) LAT. LONG. **RIVER MILE** COMMENTS ephemeral bae/jbl SCORER DATE NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes 1 (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT Points BLDR SLABS [16 pts] SILT [3 pt] 40% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 5% 0% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 5% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 13 50% 0% $\overline{\mathbf{A}}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 1 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]
</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 5 1.00 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - Yes 🖌 No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): N Date of last precipitation: 04/26/16 Quantity: 0.00
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open): 0%
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) PH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the s ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N
DRAWING AND NARRALIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location FLOW → How
PHWH Form Page - 2 October 24, 2002 Revision Resot Form Resot

Stream 26 **Modified Class 1** Field ID: hh-bcr-042616-04 Primary Headwater Habitat Evaluation Form 23 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 04 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** DATE 04/26/16 COMMENTS Ephemeral flow regime bcr/cms SCORER NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL CRECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** Historic ground disturbance 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT Points BLDR SLABS [16 pts] SILT [3 pt] 30% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10% 0% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 20% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 13 40% 0% $\overline{\mathbf{A}}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 1 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 1.00 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m \checkmark Urban or Industrial Field Open Pasture, Row Crop Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS wetland at origin FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS recent storms SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Moderate to Severe Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Severe (10 ft/100 ft)

QHEI PERFORMED? - Yes ✓ No QHEI Score (If Yes, Attac	h Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Pa	ge: NRCS Soil Map Stream Order
County: Carroll Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N):N Date of last precipitation:04/26/16	Quantity: 0.50
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): N Canopy (% open): 30%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. ar	nd attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
n/a	
n/a BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. ID number. Include appropriate field data sheets from the Prim Voucher? (Y/N) Fish Observed? (Y/N) N Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrate Comments Regarding Biology:	NOTE: all voucher samples must be labeled with the site ary Headwater Habitat Assessment Manual) Voucher? (Y/N) N s Observed? (Y/N) N Voucher? (Y/N)
In/a BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. ID number. Include appropriate field data sheets from the Prim Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrate Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REF	NOTE: all voucher samples must be labeled with the site hary Headwater Habitat Assessment Manual) Voucher? (Y/N) N voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N)
In/a BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. ID number. Include appropriate field data sheets from the Prim Voucher? (Y/N) Fish Observed? (Y/N) N Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Comments Regarding Biology:	NOTE: all voucher samples must be labeled with the site ary Headwater Habitat Assessment Manual) Voucher? (Y/N) N voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N

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Modified Class 1 Field ID: hh-bcr-042616-05 Stream 27 Primary Headwater Habitat Evaluation Form 23 HHEI Score (sum of metrics 1, 2, 3) : SITE NAME/LOCATION Yager-Leesville SITE NUMBER 05 **RIVER BASIN** DRAINAGE AREA (mi²) 200 LENGTH OF STREAM REACH (ft) LAT. **RIVER CODE** LONG. **RIVER MILE** DATE 04/26/16 COMMENTS Intermittent flow regime bcr/cms SCORER NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** Transmission ROW construction and roadway culvert 1 SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric TYPE PERCENT PERCENT ΤΥΡΕ Points BLDR SLABS [16 pts] SILT [3 pt] 40% 0% BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10% 0% Substrate 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] Max = 40 0% 0% COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 20% 0% GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 13 30% 0% $\overline{\mathbf{A}}$ SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) (A) 0.00% 100% A + BBldr Slabs, Boulder, Cobble, Bedrock 9 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth 2. evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5 2 COMMENTS MAXIMUM POOL DEPTH (Inches): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull 3 Width > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (<=3' 3") [5 pts]</p> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] 2.50 5 COMMENTS AVERAGE BANKFULL WIDTH (Feet): This information must also be completed **RIPARIAN ZONE AND FLOODPLAIN QUALITY** ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ **RIPARIAN WIDTH FLOODPLAIN QUALITY** R (Per Bank) R (Most Predominant per Bank) Wide >10m Mature Forest, Wetland **Conservation Tillage** Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial Field Open Pasture, Row Crop \checkmark \checkmark Narrow <5m Residential, Park, New Field Fenced Pasture Mining or Construction None COMMENTS wetland at origin FLOW REGIME (At Time of Evaluation) (Check ONLY one box) Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS recent storms SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 05 15 25 >3 STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 27
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, Atta	ch Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: CWH Name: EWH Name:	_ Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHEE	AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map F	Page: NRCS Soil Map Stream Order
County: Harrison Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N Date of last precipitation: 04/26/16	Quantity: 0.50
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): N Canopy (% open): 75%	
Were samples collected for water chemistry? (Y/N)	and attach results) Lab Number
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S U)	Conductivity (umbos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
n/a	
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional ID number. Include appropriate field data sheets from the Pri Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Aquatic Macroinvertebrat Comments Regarding Biology:	NOTE: all voucher samples must be labeled with the site mary Headwater Habitat Assessment Manual) Voucher? (Y/N) N voucher? (Y/N) N Voucher? (Y/N) N
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R Include important landmarks and other features of interest for site evaluation an Corn ATV trail	EACH (This <u>must</u> be completed): ad a narrative description of the stream's location T-Lines and pole

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Stream 28	Field ID: hh-bcr-04	42616-07			Class 1	
OhioFP	Primary He	adwater Ha	abitat Evalua	ation Form		28
			HHEI Score (sum of metrics	1, 2, 3):	20
SITE NAME/LOCATION	Yager-Leesville				4	
	SITE NUMBER 07	RIVER B.	ASIN		GE AREA (mi²)	
LENGTH OF STREAM	REACH (ft) 200 LA		NG. RIV			
DATE 04/26/16	SCORER DCr/CMS		pnemeral flow reg	jime		
NOTE: Complete A	I Items On This Form -	Refer to "Field Eva	aluation Manual for (Ohio's PHWH Str	eams" for Instru	ictions
STREAM CHANNEL MODIFICATIONS:	NONE / NATUR	AL CHANNEL			ENT OR NO RECO	OVERY
	Entimate nercent of every		cont Charle ON/ Viture			
(Max of 32). Ad	d total number of significant	substrate types found	(Max of 8). Final metric	score is sum of box	es A & B.	HHEI
	3S [16 pts]	CENT TYPE	SII T [3 pt]	1	PERCENT 80%	Points
BOULDER	(>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]	20%	Substrate
	[16 pt]0 5-256 mm) [12 pts]0		FINE DETRITUS [3 p CLAY or HARDPAN	ots] [0 pt]	0%	Max = 40
GRAVEL (2	-64 mm) [9 pts]		MUCK [0 pts]		0%	8
SAND (<2 r	nm) [6 pts]0		ARTIFICIAL [3 pts]			
Total of F Bldr Slabs, Bou	^v ercentages of 0.00 Ilder, Cobble, Bedrock)% (A)	Substrate Percentage 10 Check	0%	(B)	A + B
SCORE OF TWO MOS	PREDOMINATE SUBSTRA	ATE TYPES: 6	TOTAL NUMBER	R OF SUBSTRATE 1	YPES: 2	
2. Maximum Poo	I Depth (Measure the maxi	mum pool depth with	nin the 61 meter (200 ft	t) evaluation reach a	the time of	Pool Depth
 evaluation. Avo > 30 centimeters 	Id plunge pools from road cu \$ [20 pts]	liverts or storm water	> 5 cm - 10 cm [15 p	one box): ots]		Max = 30
> 22.5 - 30 cm > 10 - 22.5 cm	30 pts] 25 pts]		< 5 cm [5 pts] NO WATER OR MO	IST CHANNEL [0 pt	sl	15
COMMENTS				DOL DEPTH (1	nches): 3	
2 BANK EULL W	IDTH (Moasured as the av	orago of 3 4 mossure	monts) (Chock			Bankfull
> 4.0 meters (> 1	3') [30 pts]		> 1.0 m - 1.5 m (> 3'	3" - 4' 8") [15 pts]		Width
> 3.0 m - 4.0 m > 1.5 m - 3.0 m	> 9' 7" - 13') [25 pts] > 9' 7" - 4' 8") [20 pts]	L.	≤ 1.0 m (<=3' 3") [5 p	ots]		Max=30
COMMENTS			AVERAGE BA	NKFULL WIDTH	(Feet): 2.00	5
					. ,	
RIPARI		This informatio	n <u>must</u> also be comple	eted Right (R) as looking	downstream∿z	
RIPAR	IAN WIDTH	FLOODPLAIN QUALI	<u>TY</u>	rtight (it) as looking	downstic an A	
L R (Per	Bank) ⊭ >10m	L R (Most Predo	minant per Bank) st, Wetland	L R	ervation Tillage	
Mode	erate 5-10m	Immature Fo	prest, Shrub or Old		n or Industrial	
Narro	ow <5m	Residential.	Park. New Field	Open Open	Pasture, Row Cro	р
None	·	Fenced Pas	ture	Minin	g or Construction	
COMME	NTS wetland surroundin	<u>q</u>				
FLOW	REGIME (At Time of Evaluat	tion) (Check ONLY or	ne box): Moist Channe	el isolated pools no	flow (Intermittent)	
Subsurfa	ice flow with isolated pools (Interstitial)	Dry channel,	no water (Ephemer	al)	
COMM	in 15 <u> recent storms</u>					
SINUOS None	ITY (Number of bends per 6	31 m (200 ft) of channe 1.0	el) (Check ONLY one b 2.0	oox):	1	
0.5		1.5	2.5	>3		
STREAM GRA	DIENT ESTIMATE	Moderate (2 ft/100 ft)	Moderate to	o Severe	Severe (10 ft/10	0 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 28		
QHEI PERFORMED? - Yes V No QHEI Score (If Yes, Attach Completed QHEI Form)			
DOWNSTREAM DESIGNATED USE(S) WWH Name: CWH Name: EWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream		
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHE	DAREA. CLEARLY MARK THE SITE LOCATION		
USGS Quadrangle Name: NRCS Soil Map	Page: NRCS Soil Map Stream Order		
County: _Harrison Township / City:			
MISCELLANEOUS			
Base Flow Conditions? (Y/N):N Date of last precipitation: 04/26/16	Quantity: 0.50		
Photograph Information: 2 photos, upstream and downstream			
Elevated Turbidity? (Y/N): N Canopy (% open): 20%			
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id.	and attach results) Lab Number:		
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)		
Is the sampling reach representative of the stream (Y/N) If not, please explain:			
Additional comments/description of pollution impacts:			
n/a			
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections option ID number. Include appropriate field data sheets from the P N N	al. NOTE: all voucher samples must be labeled with the site rimary Headwater Habitat Assessment Manual)		
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebr	Voucher? (Y/N) Voucher? (Y/N) N		
Comments Regarding Biology:			
DRAWING AND NARRATIVE DESCRIPTION OF STREAM	REACH (This must be completed):		
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location			
Willows De	symoods In		





Reset Form

Field ID: hh-bcr-042616-06

Stream 29

Modified Class 1

18

Primary Headwater Habitat Evaluation Form

	HHEI SCOre (sum of met	rics 1, 2, 3) :	
SITE NAME/LOCATION Yager-Leesville			
SITE NUMBER 06	RIVER BASIN DRA		
LENGTH OF STREAM REACH (ft) 200	LAT LONG RIVER CODE		
DATE 04/26/16 SCORER bcr/cms	COMMENTS Ephemeral flow regime		
NOTE: Complete All Items On This Form	- Refer to "Field Evaluation Manual for Ohio's PHWH	I Streams" for Instructions	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY			
1. SUBSTRATE (Estimate percent of even	y type of substrate present. Check <i>ONLY</i> <u>two</u> predominant su	bstrate TYPE boxes	
(Max of 32). Add total number of significa	nt substrate types found (Max of 8). Final metric score is sum o	f boxes A & B. HHEI Metric	
BLDR SLABS [16 pts]	0% SILT [3 pt]	80% Points	
BOULDER (>256 mm) [16 pts]	0% LEAF PACK/WOODY DEBRIS [3 pts] 20% Substrate	
BEDROCK [16 pt]	0% FINE DETRITUS [3 pts] 0% CLAY or HARDRAN [0 pt]	0% Max = 40	
GRAVEL (2-64 mm) [9 pts]	0% MUCK [0 pts]	0%	
SAND (<2 mm) [6 pts]	0% ARTIFICIAL [3 pts]	0%	
Total of Percentages of 0 .	00% (A) Substrate Percentage 100%	(B) A + B	
Bldr Slabs, Boulder, Cobble, Bedrock			
2. Maximum Pool Depth (Measure the ma evaluation. Avoid plunge pools from road	aximum pool depth within the 61 meter (200 ft) evaluation rea culverts or storm water pipes) (Check ONLY one box):	ich at the time of Pool Depth Max = 30	
> 30 centimeters [20 pts]	> 5 cm - 10 cm [15 pts]		
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	✓ < 5 cm [5 pts] NO WATER OR MOIST CHANNEL	[0 pts] 5	
		(Inches):	
3. BANK FULL WIDTH (Measured as the a	average of 3-4 measurements) (Check ONLY one bo	x): Bankfull	
 > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 	→ 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pt ≤ 1.0 m (<=3' 3") [5 pts]	Max=30	
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]			
COMMENTS	AVERAGE BANKFULL WID	гн _{(Feet):} 1.50 5	
	This information must also be completed		
RIPARIAN ZONE AND FLOODP	LAIN QUALITY ANOTE: River Left (L) and Right (R) as loc ELOODELAIN OLIALITY	oking downstream☆	
<u>L</u> R (Per Bank)	<u>L R</u> (Most Predominant per Bank) <u>L R</u>		
✓ ✓ Wide >10m	Mature Forest, Wetland	Conservation Tillage	
Moderate 5-10m	Field	Jrban or Industrial	
Narrow <5m	Residential, Park, New Field	Open Pasture, Row Crop	
None	Fenced Pasture	Mining or Construction	
COMMENTS wetland at origin			
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):			
Stream Flowing Subsurface flow with isolated pool	s (Interstitial) Moist Channel, isolated pool	s, no flow (Intermittent) emeral)	
COMMENTS recent storms			
SINUOSITY (Number of bends pe	er 61 m (200 ft) of channel) <u>(C</u> heck ONLY one box):		
None D		3.0	
U 0.0	1.0 2.0	~0	
	Moderate (2 ft/100 ft)		

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	Stream 29
QHEI PERFORMED? - Yes V No QHEI Score (If Yes, Attac	ch Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	_ Distance from Evaluated Stream
CWH Name: _	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED	AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Pa	age: NRCS Soil Map Stream Order
County: Carroll Township / City:	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N Date of last precipitation: 04/26/16	Quantity: 0.50
Photograph Information: 2 photos, upstream and downstream	
Elevated Turbidity? (Y/N): N Canopy (% open): 70%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. a	nd attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) PH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not, please explain:	
Additional comments/description of pollution impacts:	
n/a	
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. ID number. Include appropriate field data sheets from the Print Fish Observed? (Y/N) N Voucher? (Y/N) Salamanders Observed? (Y/N) N Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Aquatic Macroinvertebrate Comments Regarding Biology:	NOTE: all voucher samples must be labeled with the site nary Headwater Habitat Assessment Manual) Voucher? (Y/N) N voucher? (Y/N) N Voucher? (Y/N) N
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	EACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation an	d a narrative description of the stream's location
Her K Dela	ALM -
Wear Det	the formation of the second se
FLOW Willows/Dogwoods	Wetland
PHWH Form Page - 2	
	Save as pdf Reset Form

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8/12/2016 2:41:35 PM

in

Case No(s). 16-1114-EL-BLN

Summary: Letter of Notification Part 5 of 5 electronically filed by Mrs. Erin C Miller on behalf of AEP Ohio Transmission Company